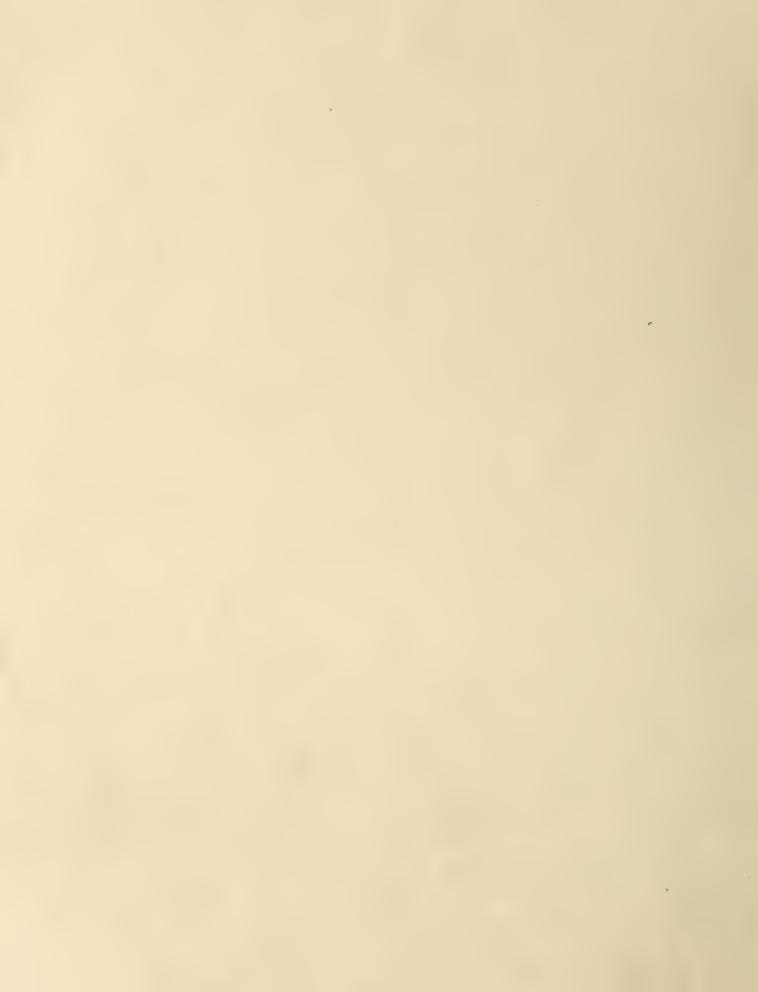
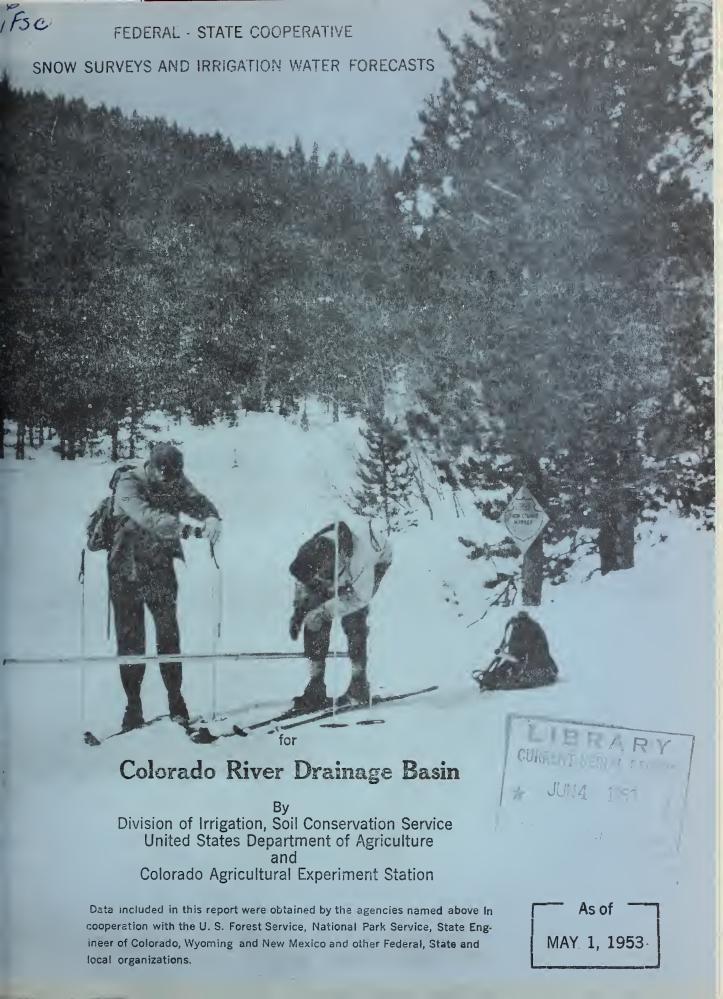
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UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

Forecasts by U. S. Weather Bureau of total annual streamflow October-September, inclusive, at more than 300 gaging stations are issued monthly January through May in the publication WATER SUPPLY FORECASTS FOR THE WESTERN UNITED STATES.

Weather Bureau forecasts of runoff presented in this bulletin are computed from procedures based on mathematical analysis of the relation between precipitation and runoff.

The Weather Bureau bulletins may be secured by writing to:

Hydrologist in Charge River Forecast Center U. S. Weather Bureau 712 Federal Office Building Kansas City 6, Missouri

FEDERAL-STATE COOPERATIVE

SNOW SURVEYS AND IRRIGATION

WATER SUPPLY FORECASTS

For

COLORADO RIVER DRAINAGE BASIN

May 1, 1953

Report Prepared

by

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General Series Paper No. 546 Colorado Agricultural Experiment Station

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WATER SUPPLY OUTLOOK COLORADO RIVER DRAINAGE May 1, 1953

The water supply outlook for the Colorado River and its tributaries in Colorado, Wyoming and New Mexico is for much less than normal flow during the 1953 season. Summer runoff is expected to vary from about 80 percent of normal on the upper Colorado River to about 40 percent of normal on the San Juan and its tributaries in southwestern Colorado. The flow of the Colorado River into Lake Mead will be about 60 percent of normal or near the lowest flow of record since the reservoir was completed. Stream flow will be less than indicated by May 1 and snow surveys made earlier in the season because of deficient moisture in mountain soils.

In Arizona the snow has melted except for shaded locations at extremely high elevations. Seasonal runoff to date has been 25 to 40 percent of normal on the Salt and Verde River watersheds and a very small percent of normal on the Gila River. Storage on the Salt River drainage is still high with the water supply outlook fair to good.

GREEN RIVER TRIBUTARIES IN COLORADO AND WYOMING

Snow water content measured on courses located on the Green River in Wyoming was slightly less than normal on both April and May 1. Forecasts have been reduced to about 60 per cent of normal due to dry soil under the snow and lack of precipitation at lower elevations. Slightly higher flows are expected for the Colorado River tributaries. The flow of the Yampa River will decrease in relation to average in the lower reaches of the stream. Soil moisture conditions are fair to good. Stream flow is well below normal. April temperatures were below average for the month with little snow melt. Such snow melt as has occurred has gone to replace deficient soil moisture under the snow.

Snow cover on Utah tributaries was much less than normal on April 1 and is reported to be less than normal on May 1.

COLORADO RIVER AND TRIBUTARIES IN COLORADO

The expected summer flow of the Colorado River tributaries in Colorado ranges from about 80 percent of normal on the Upper Colorado River and tributaries above Grand Junction to 40 percent of normal for the San Juan River and other tributaries in southwestern Colorado. The forecasts of summer flow have declined slightly on the San Juan basin during April.

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 The soil was dry under the snow at the beginning of the snow accumulation season. This will reduce the flow of streams to less than indicated by current snow cover. No material permanent snow occurred until mid-November which was a month or six weeks later than average. Increase in snow cover during February and March was much below average. Precipitation at lower elevations has been deficient during the fall and winter months.

Soil moisture conditions in western Colorado are reported as fair to good. Heavy precipitation occurred in the Montrose area during early April and soil moisture is excellent. Current stream flow is below normal in all areas due to a cold April and dry soils under the snow. Early season runoff is expected to continue well below normal unless unusually heavy rainfall should occur. Soil moisture will have to be replaced before an increase in runoff can be expected.

Storage in Granby, Green Mountain, Taylor Park, Vallecito and Groundhog Reservairs is substantially above April 1, 1953 and the past ten year average. The Granby Reservoir serving the Colorado-Big Thompson project is about 90 parcent of capacity.

COLORADO RIVER TRIBUTARIES IN ARIZONA

The runoff season from snow is well advanced in Arizona. No snow is left on the watershed except in isolated protected areas at high elevations. On the Salt and Verde Rivers runoff has been 25 to 40 percent of normal which is slightly less than expected. Runoff into San Carlos Reservoir was much less. There was practically no snow on the Gila River watershed this past winter. April precipitation was about 60 percent of average. The sail is drying out rapidly due to high winds and high temperatures during the latter part of April.

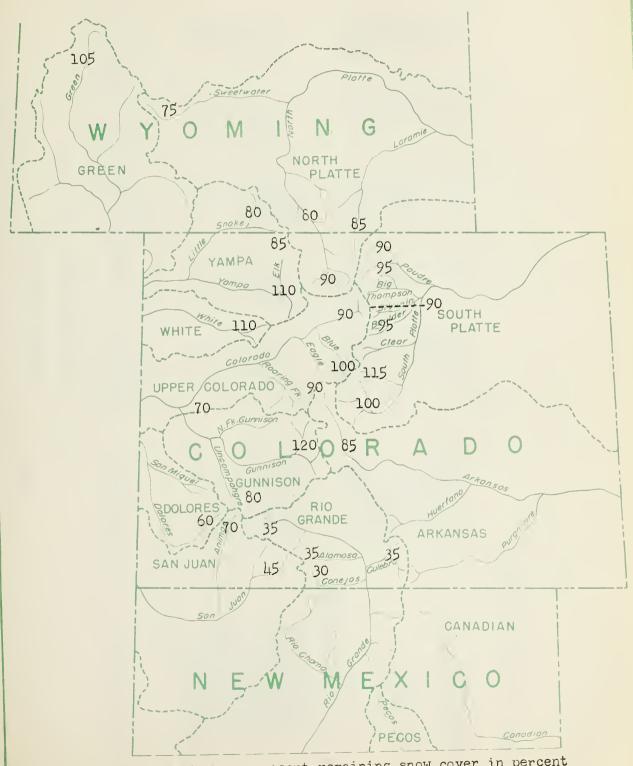
Total Salt River storage is now 1,261,000 acremfeet as compared to 1,380,000 a year ago. This is about 50 percent above the past ten year averago. San Carlos Reservoir on the Gila River is nearly empty.

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క కుండా కారం - కారాలోను ఉంది. మీప్ కుర్మం మండు కుండా కారాలకోని సామాష్ట్రికే కేంద్ర కుర్వా కార్మికి - కార్క్ స్టాన్ కారు కార్డ్ కార్కా కొట్టి ప్రాట్లో కార్డ్ కార్డ్ కార్డ్ కార్డ్ కోట్కో కార్మిక్ - కార్డ్ WATER CONTENT OF SNOW ON THE WATERSHEDS OF PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH

In Percent of Normal May 1, 1953



Note: The above percentages represent remaining snow cover in percent of normal as of May 1 and do not necessarily indicate expected runoff for the 1953 snow melt season.



SNOW SURVEYS AND IRRIGATION WATER SUPPLY FORECASTS COLORADO RIVER BASIN

STATUS OF RESERVOIR STORAGE, May 1, 1953

DACTUR AND CHORAGE	GTOWGRAGO	USABLE CAPACT TO	TIOHT	THE VERE	NT THE P	STORA GE Show	THOITSANDS ACRES BRETT IN STORACK Showt Wave 10043
DASIN AND SINCAM	UTO AUGICAV	(Thous A	POTT	אווים טיווישר	NT TOTAL 2	מקיים שמסים	10 VEAR AVE.
		Ft.)	1953	1952	1951	1950	1943-1952
COLORADO DRAINAGE							
Taylor River	Taylor Park	106,2	63.7	59.1	50.3	75.3	74.7
Los Pinos River	Vallecito	126.3	68.3	21.6	33.3	77.9	42.8
Groundhog Creek	Groundhog	21c7	12,5	4.5	4.3	11,00	10,2
Blue River	Green Mountain	146.9	63.2	54.8	45.7	0*87	54,1
Colorado River	Lake Mead	27935.0	17503.0	15844.0	16500.0	1773000	18251,0
Colorado River	Lake Havasu	0°889	651.4	632.8	664.5	0,199	656,2
Colorado River	Lake Mohave		1695.0	1577.0	1	!	*
SAT.T AND GITA DRATNAGE							
	+	0 00.1	ר 200 ר	000	C	7	- C
Jarr River	Roosever	1450•0	T• J 00T	2,0%	70)	222.0	204°T
	Horse Mesa	245.0	242.5	239.9	121,3	241.2	212,5
12	Canyon	28.0	56.1	50°5	51,0	54.1	18,3
=	Sahuaro	70,0	54.1	51.7	44.5	47.4	50.7
Verde River	Bartlett	2000	49.3	165.7	8.7	43.0	82,1
	Horseshoe	0°29	1.2	102.6	7°0	1,0	35.6
Aqua Fria River	Carl Pleasant	173.0			;	9•9	13.5
Gila River	San Carlos	1200,0	8.7	159.8	000	47.1	137.2
		-		_			
Shome for abouter neriode							

*Some for shorter periods

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SNOW SURVEYS AND IRRIGATION WATER FORECASTS for COLORADO RIVER BASIN

SUMMARY OF MAY 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

COMMEND OF THE LONG CONTINUED AND COMMEND OF THE THE CONTINUED OF THE CONT	NON O	TIATE PIN	700	1001	י שדער זי	No of	OF ATION TO	100 1/0+0x	ALLECOIMODO
	MOUG					TO ON	MOIIO	TADO Marer concent	concent in
WATERSHEDS	Depth	Snow Wa	ter Con	tent in	1 Inches	Water Content in Inches Courses	Densi ty	Percent of	t of
	1953				17 yr.*	in	1953		
	Inches	1953	1952	1951	1951 Average Average		Percent	1952	17 yr. Avg.*
COLORADO RIVER									
Colorado River**	33.8	10.5	16.4	15,5		21	31	ή9	90
Roaring Fork	38.3	12.5	19.2	17.6		M	33	65	88
Plateau Creek	57.9	19,3	33.8	17.0		2	33	57	81
Green River	21.8	9.1	11.2	17.5		9	77	81	107
Yampa River	1,3,2	17.8	28.1	20.2		6	17	63	96
White River	34.4	12,5	17.6	13,2		01	36	77	66
Gunnison River	34.0	11,3	20.0	10.6		13	33	26	<u>&</u> 3
Dolores River	8.3	2.6	7.5	3.6		m	31	35	65
San Juan River	24.3	0.8	30.9	12.0	18,2	7	33	26	· 1
Animas River	0.0	0,0	5.6	0.0		2	1	1 1	: 1
*Some for shorter periods	iods	**Above	Glenwood Springs	Sprin	183				

PRECIPITATION DATA

		Precipitation	Departure	Precipitation*	Departure
WATERSHED	STATE	October 1 to	from	1	from
		April 30	Normal	April	Normal
		Inches	Inches	Inches	Inches
Colorado	Colorado	8.10	2,86	1.98	♣ 0 • 22
Green	Wyoming	3.23	-2.62	0.78	0.23
San Juan	New Mexico	4.63	-1.48	0,82	10.13
Colorado	Arizona				1
Gila	Arizona				

1	
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COLORADO RIVER DRAINAGE BASIN STREAM FLOM FORECASTS, MAY 1, 1953

		April-Sept.,	Incles	Streamflow, Acre Feet	
· BASIN AND STREAM	Forecast 1953	1 1952		1950	10-yr-Avg. 1941-1950
GREEN					
Green at Linwood, Utah Little Snake at Lily Elk at Clark	800,000 190,000 160,000		1,879,000 254,000 214,000	2,118,000 320,000 224,000	1,346,000 365,000 213,000
Yampa at Steamboat Springs White at Meeker	190,000		244,000 324,000	245,000 303,000	272,000
COLORADO					
Colorado near Granby	140,000*		15,000***	11,000***	225,000
Willow offer Hear diamon Frazer at Granby	55,000		121,000	73,000	99,000
Blue Above Green Mt. Res. Colorado at Glenwood Springs	250,000	2.077.000**	367,000	254,000	287,000
Roaring Fork at Glenwood Springs	000,009		719,000	633,000	812,000
Flateau Creek at Collbran Gunnison at Iola	40,000		33,000	52,000 472,000	60,000
Uncompangre at Colona	90,000		000,69	92,000	179,000
Surface Creek hear Cedaredge Gunnison at Grand Junction	1,050,000		590,000	1,018,000	1,611,000
San Juan at Rosa, N.W.	300,000		270,000	379,000	743,000
riedra ofeek at Fiedra Los Pinos near Bayfield	125,000	304,000	126,000	168,000	240,000
Florida near Durango	30,000		27,000	37,000	73,000
Animas at Durango	275,000		262,000	323,000	558,000
La Flata at Hesperus Dolores at Dolores	18,000		16,000.	17,000	27,000
Colorado near Grand Canyon-Ariz.	000,000,9	15,495,000	7,565,000	8,271,000	10,320,000
* Including diversions and storage					
***Actual flow below Granby					
					/

COLORADO RIVER DRAINAGE SNOW SURVEYS May 1, 1953

		Ma	7 1 , 195				
_		,	L		er Measurem		
Drainage Basin	No.	Date	Snow	Water	Content	<u>.t </u>	t Record
and	and	Elev. of	Depth			Yrs.	Av.Water
Snow Course	State	Surve	ył	1953	1952 1951	Rec.	Content
			In.	In.	In. In.		In.
	1	COLORA	ADO RIVE	k			
COLORADO RIVER (A	bove Glenwo	ood Springs)					
Cameron Pass*	1 Colo.	10300 4/30	60.0	21.8	29.2 26.5	1:17	24.2
Park View*	7 11	9200 4/30	21.9	6.6	11.4 8.9	17	7.4
Phantom Valley	12 "	9300 4/28	19.5	7.3	11.6 11.2	17	6.4
Hoosier Pass	14 "	11400 4/30	40.3	12.2	17.7 16.7	17	11.7
Berthoud Pass	16 "	9700 5/1	47.3	12.0	21.9 20.8	17	15.3
Tennessee Pass	19 "	10200 4/30	28.5	7.4	13.7 11.8	17	6.3
M. Fork Camp. Gr.	37 "	9000 4/30	22.6	5.6	9.6 11.2	17	6.1
Fiddler Gulch	111 "	11000			21.7 20.9	16	15.5
Lulu	59 "	10200 4/28	42.7	14.0	22.4 25.1	13	20.0
Willow Creek P.	62 11	9500 5/1	32.4	8.3	20.6 14.8	15	13.5
N.Inlet Grand L.	64 "	9000 4/28	22.7	7.6	14.2 7.8	15	7.8
Lake Irene	65 "	10600 4/26	59.9	23.1	28.2 34.5	15	24.5
Arrow	69 "	9900 5/1	25.4	5.9	13.0 11.5	15	7.8
Lapland	70 "	9500 5/2	33.0	9.5	12.8 12.8	15	9.0
Fremont Pass #2	79 11	11400 4/30	55.6	17.4	23.0 27.7	17	18.1
Lynx Pass	91 "	9100 5/1	20.4	5.9		17	8.4
Shrine Pass	96 "	10500 4/30	53.2	19.9			
Grizzly Peak	97 "	11250 5/2	62.8		22.0 25.5	11	18.9
Glen-Mar Ranch	102 "	8850 4/30		20.7	26.8 27.7	11	20.3
Monarch Lake	106 "	8500 4/30	15.1 24.1	3.5		6	6.5
Granby	113 "	8700 5/3	10.3	6.7	12.7 7.6	5 4	4.7
Grand Lake	127 "	8600 4/28	12.3	2.2 3.8	5.2 3.0	1 4	3.0
Berthoud Summit	138 "	11300 5/3	70.0			4	5.0
Frazer View	139 "	10600 5/3		23.7	27.3 19.7	2	
Gore Pass	143 "	8900 5/1	45.7	12.9	15.7 13.4	2 2	
Frisco	146 "	9300 4/30	29.0 19.2	7.5	11.8 9.7		
Snake River	140	9700 5/2		5.6	5.5 10.0	2	
Summit Ranch	158 "	10000 5/2	23.2	5.5	7.4 12.7	2	
Vail Pass	163 "		23.9	4.0	12.2 10.0	2	
Pando	168 "	10000 5/2	40.4	12.7	23.7	1	
	drainage	9500 5/2	17.3	6.4	11.0	1	17 7
ROARING FORK	Marinage	10	33.8	10.5	16.4 15.5		11.7
Ind. Pass Tunnel	33 Colo.	10700 5/3	50.3	7 ~ ~	10 (00 (7.7	77.2
North Lost Trail	34 "	9200 5/1		15.5	19.6 20.6	17	17.3
Nast	45 "	8700	12.0	4.0	10.5 10.2	17	9.8
Ivanhoe	100 "	10400 4/28	52 . 7	18.0	3.9 2.7	17	1.4
Ruby	144 "	11500 5/3			27.4 22.1	7	15.6
Average for		11500 5/5	52.5 38.3	17.3 12.5	19.6 18.5	2	31 6
GREEN RIVER	Mainage		ر•٥٠	12.5	19.2 17.5		14.2
Dutch Joe	23 Wyo.	8700 4/30	20	0.6	0/6/33 0	7.7	1 7
Mulligan Park	25 Wyo.	8900 4/30	3.0	0.6	2.6 11.2	17	4.1
Kendall R.S.	25 "	7900 4/30	15.6	6.5	6.6 13.3	17	6.9
Loomis Park	26 "	8500 5/3	17.6	6.8	6.2 13.6	16	6.2
Snyder Basin R.S.	20 1	8040 5/3	29.6	15.1	12.3 21.6	16	10.8
Piney-LaBarge	28 "	8820 5/3	26.6	10.7	16.7 19.0	17	8.7
Average for	20	0020 5/3	38.6	14.7	22.6 26.5	17	14.5
*On adjacent drai			21.0	9.1	11.2 17.5		8.5

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COLORADO RIVER SNOW SURVEYS MAY 1, 1953

				1, 1953					
			Sno	w Cours					
Drainage Basin	No.		Date	Snow	Wat	er Cor	ntent	l	st Record
and	and	Elev.		Depth				Yrs.	Av. Water
Snow Course	State		Survey		1953	1952	1951	Rec.	Content
				i	In.	In.	In.		In.
			COLORAD	O RIVLE					
YAMPA RIVER									
Dry Lake	6 Colo.	8300				28.8	18.7	17	16.2
Columbine Lodge*		9300	5/2	61.5	25.9	30.5	28.8	17	20.5
Elk River	9 "	8700	4/30	33.5	12.2	22.0	12.3	17	13.0
Lynx Pass*	91 "	9100	5/1	20.4	5.9	10.0	6.4	17	8.4
Routt Line	140 "	9700	5/2	102.8	44.2	45.4	47.1	2	400 400
Rabbit Ears	141 "	9550	5/1	75.8	28.9	32.0	31.1	2	
Yampa View	142 "	8500	5/1	31.1	11.0	12.5	12.3	2	** 140
Old Battle*	9 Wyo.	9800	4/27	63.3	27.2	50.0	34.9	17	34.3
Average for	drainage			43.2	17.8	28.1	20.2		18.5
WHITE RIVER									
Burro Mountain	35 Colo.	9000				19.8	11.1	17	15.0
Rio Blanco	30	8500	4/30	28.9	11.1	15.3	15.3	17	10.1
Average for	drainage			34.4	12.5	17.6	13.2	į į	12,6
PLATEAU CREEK	T(0.7	7.0000	1 /00	1.00			1		
Mesa Lakes	56 Colo.	10000		46.8	14.2	23.5	10.6	16	15.9
Trickle Divide	85 "	10000	4/30	69.1	24.5	44.2	23.5	13	32.0
Average for GUNNISON RIVER	arainage			57.9	19.3	33.8	17.0		23.9
Crested Butte	18 0070	0000	1. /20	00 (70 2	300	۲ 0	3.	, -
Park Cone	18 Colo.		4/30	28.6	10.3	18.3	5.8	16	6.5
Alexander Lake	53 "	10000	4/30	31.9 51.9	8.9	17.6	7.2	16	5.7
Snowshoe Mesa	55 "		4/30	12.7	17.1 2.2	34.5	17.9	16	24.6
Ironton Park	58 "		4/28	16.6	7.5	0.0	0.0	16 16	1.0
Trickle Divide	85 "	10000		69.1	24.5	44.2	23.5	13	8 . 2 32 . 0
Park Reservoir	87 "		4/30	57.2	20.1	40.1	20.9	13	29.9
Porphyry Creek	89 "	10800		55.1	17.9	24.6	23.2	13	17.9
Kannah Cr.	101 "	10700		52.3	21.7	36.0	19.6	6	26.6
Lake City	104 "	10300		9.9	2.2	4.7	0.0		2.8
Spring Cr.Pass*	123 "	10900		16.8	4.3	13.9	3.9	5 4	7.•4
Cochetopa Pass*	126 "	10000	4/30	0.0	0.0	4.5	3.1	4	2.9
McClure Pass	132 "	9500		30.0	10.0	10.7		3	11.3
Red Mt. Pass	153 "	11000		74.0	26.5	45.8		2	
Average for	drainage			34.0	11.3	20.0	10.6		13.6
SAN JUAN RIVER									
Wolf Creek Pass*	26 Colo.	10000		39.5	10.3	49.2	20.9	17	27.9
Upper San Juan	29 "	10000	4/30	57.6		53.6	23.2	17	32.2
Granite Peaks	93 "		4/30	0.0	0.0	0.0	0.0	12	0.7
La Plata	135 Colo.	8700		0.0	0.0	22.7	4.0	3	12.2
Wolf Creek Summit	,	11000	4/30	65.5	19.1		22.1	2	
Average for	Drainage			24.3	8.0	31.4	12.0		18.2
350 33					1				

*On adjacent crainage

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COLORADO RIVER SNOW SURVEYS

May 1, 1953

						Measure			
Drainage Basin	No.		Date	Snow	Wate	r Conte	nt		Record
and	and	Elev.	of	Depth				Yrs.	Av.Water
Snow Course	State		Survey		1953	1952	1951	Rec.	Content
				In.	In.	In.	In.		In.
			į	ł					
		COI	LORADO I	RIVER					
ANIMAS RIVER			l	İ					
Silverton Sub.S.	30 Colo.		4/30	0.0	0.0	0.0	0.0	17	1.1
Cascade	31 "		4/30	0.0	0.0	11.3	0.0	17	3.0
Spud Mt.	149 "	10700		59.4	20.8	45.1	16.6	2	
Molas Lake	150 "	10500		6.4	2.4	24.1	5.2	2	
Howardville	151 "		4/29	10.2	3.6	15.2	4.9	2	
Mineral Creek	152 "	1:0300		25.7	7.6	22.2	10.1	2	
Red Mt. Pass	153 "	11000	4/29	74.0	26.5	45.8	28.8	2	
Average for	drainage			0.0	0.0	5.6	0.0		2.0
DOLORES RIVER		^ -	- 1						
Rico	23 "	8700		0.0	0.0	0.0	3.2	16	1.3
Telluride	24 "	8600	- ,	0.0	0.0	0.0	0.8	17	1.2
Lizard Head	25 "	10300		,		29.0	10.0	15	14.6
Trout Lake	114 "	9700	5/1	25.0	7.8	22.4	6.7	4	9.5
Average for	drainage			8.3	2.6	7.5	3.6		4.0
		- 1							

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LIST AND LOCATION OF SNOW COURSES

Platte, Arkansas, Colorado and Rio Grande Drainages

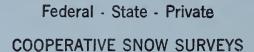
No	٠.	Name	Sec.	Twp∙	Rge.	Elev.	No	٠.	Name	Sec.	Twp.	Rge.	Elev.
	22	Cheyenne	21	3N	1E	6500	12	С	Upper Colorado Phantom Valley	7	5N	75W	9300
1	SD	Upper Spearfish	21	ЭN	15	6500	16	C	Berthoud Pass	35	2S	75W	9700
		Worth Dishes					37	C		16	3S	77W	9000
	~	North Platte	24	5N	78W	9200	44	C	M. F. Camp Ground Fiddler Gulch	10	88	80W	11000
7	C	Park View			82W	9300	59	C		25	6N	76W	10000
8	C	Columbine	21	5N				_	Lulu N. Iniet Grand Lake	26	4N		
156	C	Northgate	7	11N	79W	8500	64	C		8		75W 75W	9000 10600
7	W	Bottle Creek	24	14N	85W	8200	65	C	Lake Irene		5N 1S		
8	W	Webber Spring	27	14N	85W	9000	69	C	Arrow	34	2S	75W	9900
9	M	Old Battle	29	14N	85W	9800	70	C	Lapland	16 2	8S	76W	9500
37	W	North French Creek	27	16N	80W	10200	79	C	Fremont Pass				11400
38	W	North Barrett Creek	30	16N	80W	9400	91	C	Lynx Pass	27	SM	88W	9100
39	M	Ryan Park	34	16N	81W	8400	96	C	Shrine Pass	15	6S	79W	10500
67	M	Spring Creek	32	15N	85W	9000	97	C	Grizzly Feak	2	5\$	76W	11250
68	7/1	Albany	18	14N	78W	9400	102	C	Glen-Mar Ranch	31	28	77W	8850
71	W	Pearl	18	151	82W	8900	106	C	Nonarch Lake	30	2.7	747	8500
							112	C	Granby	11	SN	77W	8700
		Laremie	_		****		127	C	Grand Lake	36	4 N	75.7	8600
88	C	Roach	5	101	77W	9800	138	C	Berthoud Summit	10	28	75N	11300
111	C	McIntyre	35	101/	76W	9100	139	C	Frazer View	34	28	75N	10600
3	78	Brooklyn Lake	11	16N	78W	10200	143	C	Gore Pass	2	lN	82W	8900
11	*NF	Foxpark	21	131	78W	9200	146	C	Frisco	18	6S	78W	9300
35	Α.	Liboy Lodge	29	16N	78W	8700	147	C	Snake River	9	5S	76N	9700
٥6	A	Hairpin Turn	24	1 6N	79W	9500	158	C	Summit Ranch	8	48	78W	10000
							163	C	Vail Pass	28	58	79W	10000
		Sweetwater					167	C	Kokomo	23	7 S	79N	10600
29		Grannier * sacows	19	3JN	100W	9000	168	C	Fando	10	7S	8.W	9500
47	N .	South Pass	13	30N	101W	9000							
57	W	Larson Creek	12	30N	105W	9000			Roaring Fork				
							33	C	Ind. Pass Tunnel	30	118	82W	10700
		Laramie Peaks Dist					54	C	North Lost Trail	20	118	87 W	9200
254	M	La Bonte	11	27N	74'N	8450	45	C	Nast	1	9\$	83'N	8700
70	W	Boxelder	31	SON	7 5W	9000	100	C	I vanhoe	12	98	82W	10400
							144	C	Ruby	1	128	83W	11500
		South Flatte											
1	C	Cameron Pass	2	6N	76W	10300			Yampa				
2	C	Chambers Lake	6	7N	75W	9000	6	C	Dry Lake	26	7N	84N	8300
3	C	Big South	33	811	75W	8600	ý	C	Elk River	21	5N	82W	4900
5	C	East Portal	2	2S	74W	9400	140	C	Routt Line	13	5N	851	≥7J0
14	C	Hoosier Pass	13	8\$	78W	11400	141	C	Rabbit Ears	30	5N	85N	9 550
15	C	Fairplay	33	9\$	'7'/W	10000	14 2	C	Yampa View	21	5N	84W	8500
41	C	Wild Basin	24	3N	74W	10000							
50	C	Deadman Hill	26	101	7 SW	10200			White				
60	C	University Camp	26	1N	75W	10300	35	C	Burro Mountain	15	28	9 1W	9000
61	C	Loveland Pass	27	4S	76W	10600	36	C	Rio Blanco	28	lN	88 W	8500
68	C	Hour Glass Lake	18	7N	75W	9 500							
83	C	Jefferson Creek	14	7S	76W	10100			Plateau Creek				
95	C	Widden Valley	23	5N	75W	9550	56	C	Mesa Lakes	3 5	118	96N	10000
115	C	Deer Riage	19	5N	75W	9050	85	C	Trickle Divide	23	118	94W	10000
116	C	Copeland Lake	21	3N	75W	8600							
117	C	Empire	21	38	7 5W	9650			Gunnison River				
118	C	Geneva Park	18	6S	74W	9750	18	C	Crested Butte	22	138	86W	900 0
120	C	Antero	1	138	7'/W	9200	46	C	Park Cone	19	148	82W	9700
128	C	Red Feather	26	lon	74W	9000	53	C	Alexander Lake	2	12S	25W	10000
133	9	Moffatt	2	2\$	74W	9400	55	C	Snowshoe Mesa	14	138	89W	7500
154	C	Ward	1	ln	75W	9500	58	C	Ironton Park	29	43N	7w	9800
	C	Berthoud Falls	16	3\$	75W	10500	87	C	Park Reservoir	34	118	94W	9500
148	C	Longs Peak	32	4N	75W	10500	89	C	Porphyry Creek	19	49N	6E	10800
156		Lost Lake	32	8N	7 5W	9300	101	C	Kannah Creek	5	12S	95W	10700
34	C	Pole Mountain	35	15N	72W	8700	104	C	Lake City	13	4 on	4W	10300
							152	C	McClure Puss	1	118	89W	9500
		Arkansas River					155		Red Mountain	13	42N	E/W	11000
19		Tennessee Pass	21	88	ROM	10200							
21	C	Twin Lakes Tunnel	22	118	82W	10500			San Juan				
72	C	Wniskey Creek		37.2N	105W	10300	29	C	Upper San Juan	10	37N	1E	10000
74		La Vetu Pass	22	28\$	70W	9300	30		Silverton	10	41N	7w	9400
78		Four Mile Park	23	118	81W	9700	31		Cascade	12	39N	9W	8850
81	C	Blue Lakes	30	318	69W	10000	155		La Plata	4	36N	11W	9700
92	C	Monarch Pass	16	49N	6E	10500	149		Spud Mountain	32	40N	8W	10700
119		Saint Elmo	31	158	ROM	10600	150		Molas Lake	7	4UN	7W	10500
121		Timberline	8	98	81W	11100	151		Howardville	15	41N	7W	9800
165		Cooper Hill	2	88	8UW	10600	162		Mineral Creek	35	42N	8W	10300
165		East Fork	9	88	73 N	10700			- 2	_			

LIST AND LOCATION OF SNOW COURSES (CONTINUED)

No		Name	Sec.	Twp.	Rge.	Elev.	No	•	Name	Sec.	Twp	Rge.	Elev.
		Dolores							Arizona (Williams))			
23	C	Rioo	11	39N	11W	8700	7	A	Iron Springs	22	14N	3W	6000
24	Ċ	Telluride	6	42N	8W	8600	15		Willow Ranch	16	21N	11W	5000
25	Č	Lizzard Head	24	41N	10W	10300		**	WIIIOW ROMANI	10	2114	11"	5000
114	Ċ	Trout Lake	8	41N	9W	9700			Arizona (Lower Col	orado	١		
	Ŭ	11040 Dallo	· ·		•"	0.00	9	A	Chalendar	27	22N	3E	7100
		Green					10	Ā	Grand Canyon	21	30N	4E	7500
23	W	Dutoh Joe	33	31N	104W	8700	11	Ā	Bright Angel	34	33N	4E	8400
24	w	Mulligan Park	17	35N	108W	8900		**	pragate varigor	01	OOM	70	0400
25	W	Kendall R. S.	23	38N	110W	7900			Rio Grande				
26	W	Loomis Park	14	37W	111W	8500	26	С	Wolf Creek	4	37N	2E	10000
27	W	Snyder Basin	15	29N	114W	8040	27	c	Upper Rio Grande	13	40N	4W	9350
28	W	Piney La Barge	19	29N	114W	8820	47	c	Silver Lakes	15	36N	5E	9600
20	17	riney ha barge	10	E O IA	11.411	0020	49	c	River Springs	25	33N	6E	9800
		Arizona (Gila)					76	c	Summitville	30	37N	4E	11500
11	ND.	Frisco Divide	21	6S	20W	8000	77	c	Cumbres Pass	17	32N	5E	10000
14		State Line	5	6S	21W	8000	80	C	Santa Maria	-8	41N	2W	9700
22		Taylor Creek	20	108	10W	7850	82	C	Culebra	٥		105.2W	10000
23		Inman	6	118	10W	7800	84	C	Fort Garland	13	29N	72W	8200
1	AM	Nutrioso	23	6N	30E	8500	108	c	Platoro	22	36N	4W	9950
2	A	Beaver Head	13	4N	30E	8000	100	C	West Conejos	25	35N	4E	9450
3	A	Coronado Trail	26	5N	30E	8000	110	C	La · Manga	11	33N	5E	10000
29	A	Rose Canyon	15	12S	16E	7300	122	C	Pyramid	26	41N	SW	10300
30	A	Bear Wallow	6	12S	16E	8100	123	C		20			
30	Α	Bear Mallow	0	125	TOE	9100	123	C	Spring Creek Pass Pool Table Mt.	-	42N	3W	10900
		Arizona (Salt)					124	C	Lake Humphrey	19 32	41N 40N	2E 1E	10000 9300
4			14	8N	23E	7200	126	C		12			
4 5	A	McNary	2	9N			154	C	Cochetopa Pass		45N	3E	10000
_	A	Forest Dale			21E	6000			Poroupine	2	41N	3W	10400
6	A	Milk Ranoh	28	8N	23E	7000	155	C	Wolf Creek Summit	6	37N	2E	11000
20	A	Pacheta				7800	_						
21	A	Fort Apache	18	7N	27E	9000		NM	Red River	29	28N	15E	9500
22	A	Baldy	28	7N	27E	9000		MM	Taos Canyon	10	25N	15E	9000
23	A	Maverick Fork	13	6N	27E	9050		NM	Aspen Grove	12	18N	10E	9100
31	A	Workman Creek	33	6N	14E	5860		NM	Hematite Park	8	28N	15E	9 500
							12		Tres Ritos	23	22N	13E	9000
		Arizona (Little Co					15		Payrole	16	28N	7E	9700
12	A	Fort Valley	22	22N	6E	7350	17		Chama Divide			106.7W	7750
13	A	Mormon Lake	13	18N	8E	7350	18		Chamita			106.7₩	8500
19	A	Mormon Mountain	14	18N	8E	7500	19		Cordova	22	22N	13E	10100
							20		Panohuela	27	19N	12E	8300
		Arizona (Verde)					21		Big Tesuque	17	18N	11E	10000
8	A	Camp Wood	3	16N	6 W	5700	24		Elk Cabin	8	18N	11E	8250
16	A	Antelope Park	29	19N	8E	7300	26		Rio En Medio	8	18N	11E	10400
17	A	Casner Park	19	18N	8E	6930	28		Quemazon	34	ZON	5E	9300
18	A	Munds Park	7	18N	7E	6500	29		Bateman	5	26N	6E	9300
							31	NM	Fenton Hill	18	19N	3W	8900

SD - South Dakota; C - Colorado; W - Wyoming; A - Arizona; NM - New Mexico





Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"